Fisher Population Analyses
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Abstract

Wisconsin's fisher population was reduced approximately 25% by the unusually high harvest of 3,644 fishers during the 1997 season. Conservative harvests since then have allowed the population to increase to a level at or slightly above our established population goal (9,200 fishers). A harvest of 1,405 fishers was recommended for the 2001 season. This included a very conservative harvest (20 fishers) in newly established Fisher Management Zone E.

Methods

In 2000, trappers were required to register their fishers at DNR stations and turn in the head at the same time. Date of harvest and harvest zone (Fig. 1) were recorded for each head. A canine tooth was extracted and sent to Matson's Lab, Milltown, MT for processing and aging. Ages were determined by counting annuli in the cementum. The sex of each fisher was determined from canine tooth measurements (Jenks and Bowyer 1984).

Fisher population estimates and trends were determined using Minnesota's Fisher Population Model and data obtained from harvest registration, carcass collections and the Winter Furbearer Track Counts. Kohn et al. (1993) described procedures and interpretations in detail for data collected during 1985-92.

The Fisher Population Model was refined in 1995-96. Major changes included adjustments to illegal harvest estimates during earlier seasons with low harvests, and direct use of track frequencies observed in Winter Furbearer Track Counts as an independent estimate of population trends. The model was then modified for application in each Fisher Management Zone in 1997.

Results

Canine teeth were obtained from 534 of the 676 fishers harvested in the 2000 season. Ages of these animals have not been obtained yet. Ages have been obtained from 6,606 fishers harvested since 1985 (Table 1). Ages of both sexes have been similar. On average, juveniles have comprised approximately 50% of the fishers harvested, yearlings 25%, and adults 25%.

In response to strong public opposition to the high fisher population in 1997, the WDNR set a statewide population goal of 9,200 fishers (1 per 2 square miles of habitat). There were approximately 10,600 fishers in the state at that time (Table 2).

The 1997 fisher harvest (3,644) far exceeded our expectations and harvest goal (1,850). That high harvest resulted in a fall population estimate of only 7,800 fishers statewide in 1998, about 15% below the recently established population goal. Conservative harvests in 1998 (494 fishers), 1999 (721) and 2000 (676) allowed the population to rebound and our fisher population model produced estimates for Fall, 2001 of approximately 2,000 fishers in Zone A, 3,300 in Zone B, 1,700 in Zone C, and 2,800 in Zone D. Fisher populations are now slightly above the population goal in all Fisher Management Zones.

The WDNR Furbearer Advisory Committee recommended harvest goals for 2001 of 300 fishers in Zone A, 425 in Zone B, 280 in Zone C, and 380 in Zone D. The Committee also recommended a minimal harvest of 20 fishers in Zone E. Only 3 fishers were harvested in Zone E in 2000. If achieved, these harvests should maintain the population at or near goals in all Fisher Management Units.

LITERATURE CITED

Jenks, J. A., and R. T. Bowyer. 1984. Sex and age-class determination for fisher using radiographs of canine teeth. J. Wildl. Manage. 48(2):626-628.

Kohn, B. E., N. F. Payne, J. E. Ashbrenner, and W. A. Creed. 1993. The fisher in Wisconsin. Wis. Dep. Nat. Resour. Tech. Bull 183. 24 pp.

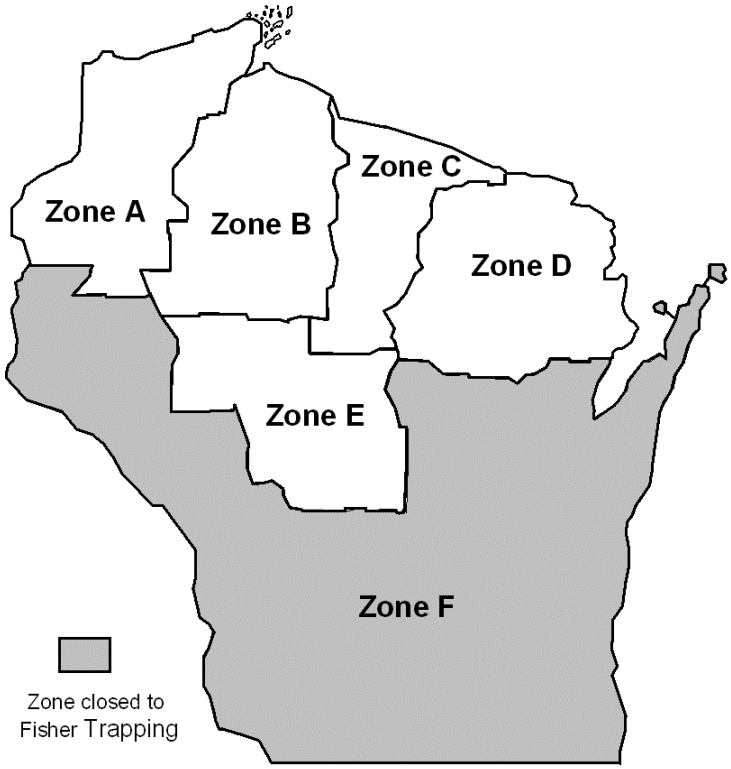

Figure 1. *Wisconsin's Fisher Management Zones open to trapping, 2000. Zone E was opened to trapping in 2000 for the first time since fishers were reintroduced.*

Table 1. *Ages of fishers harvested in Wisconsin, 1985-99.*

		Percent in Age Class					
	No.	Females			Males		
Year	Aged	Juv.	Ylg.	Adult	Juv.	Ylg.	Adult
1985-89	919	43	28	29	53	18	29
1990	271	49	34	17	50	27	23
1991	167	49	27	23	47	21	32
1992	1420	52	25	23	51	26	24
1993	1172	39	30	31	51	25	24
1994	1158	55	24	22	54	24	22
1995	821	51	28	22	55	27	18
1996	0	---	---	---	---	---	---
1997	0	---	---	---	---	---	---
1998	247	55	31	14	65	18	18
1999	431	44	30	26	52	31	17

Table 2. *Zone-specific fisher population estimates and trends, 1984-2001.*

	Fisher Management Zones				
Year	A	B	C	D	Total
1984	900	1,400	600	1,100	4,000
1985	1,100	1,700	700	1,300	4,800
1986	1,200	1,900	900	1,600	5,600
1987	1,400	2,200	1,000	1,800	6,400
1988	1,400	2,500	1,200	2,000	7,100
1989	1,400	2,900	1,300	2,300	7,900
1990	1,400	3,200	1,600	2,500	8,700
1991	1,600	3,600	1,800	2,900	9,900
1992	1,800	4,100	2,100	3,300	11,300
1993	1,800	4,000	2,200	3,300	11,300
1994	1,700	3,800	2,300	3,300	11,100
1995	1,700	3,800	2,200	2,900	10,600
1996	1,700	3,800	2,100	2,900	10,500
1997	1,700	3,900	2,100	2,900	10,600
1998	1,500	2,600	1,400	2,000	7,500
1999	1,700	2,800	1,600	2,200	8,300
2000	1,800	3,000	1,600	2,400	8,800
2001	2,000	3,300	1,700	2,800	9,800
GOAL	1,700	3,200	1,600	2,700	9,200